

S/141/59/002/05/010/026

Experimental Investigation of the ^{E310/E582}Travelling-wave Amplifier Having
a Trochoidal Electron Beam with the "Bleeding" of the Accelerated
Electrons

There are 7 figures and 4 references, 2 of which are
Swiss and 2 Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut
pri Gor'kovskom universitete (Scientific Research
Institute of Radio Physics of Gor'kiy University) 4

SUBMITTED: July 6, 1959

Card 3/3

21176

S/141/60/003/005/015/025
E192/E382

9.13.00 (4/50 1130

AUTHORS: Antakov, I.I., Bokov, V.M., Vasil'yev, R.L. and
Gaponov, A.V.

TITLE: Interaction Between a Trochoidal Electron Beam
and Electromagnetic Waves in a Rectangular Waveguide

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Radiofizika, 1960, Vol. 3, No. 6, pp. 1033-1044

TEXT: A detailed analysis of the interaction between a
trochoidal electron beam and electromagnetic waves in a
rectangular waveguide with three ideally conducting walls and
"one" impedance wall is presented. A sufficiently weak
electron beam interacts effectively with one of the normal
waves in a transmission line or waveguide only under the
condition that $h_0(1 + \epsilon) = h_e + mh_H$ or:

$$\omega = \frac{m\omega_H}{(1 + \epsilon)v_{\parallel}/v_{\phi} - 1} \quad (1)$$

Card 1/6

21176

S/141/60/003/006/013/025
E192/E382

Interaction Between

where $m = 0, \pm 1, \pm 2, \dots$ $|\varepsilon| \ll 1$ and $h_0 = \omega/v_d^{(0)}$ is the propagation constant of the corresponding normal wave in a "cold" waveguide; $v_{||} = E_0/B_0$ is the drift velocity of the electrons moving along a trochoid and having an oscillation amplitude a in crossed fields E_0 and B_0 ;

$h_e = \omega/v_{||}$, $h_H = \omega_H/v_{||}$, $\omega_H = (e/m)B_0 = \eta B_0$ which is the gyromagnetic frequency. If the condition of synchronism given by Eq. (1) is fulfilled, the scattering equation for the correction of the order $b = (h - h_0)/h_0$ for the propagation constant of the electromagnetic wave in the waveguide for comparatively weak signals (without taking into account the space charge) is in the form (Refs. 2, 5):

$$E_y = h_a \cos(x_a x) \operatorname{ch}(\gamma y); H_z = -\frac{k^2 - k_a^2}{kZ_0} \cos(x_a x) \operatorname{ch}(\gamma y); \quad (3) \quad (3)$$

Card 2/6

$$H_z = -i \frac{h_a x_a}{kZ_0} \sin(x_a x) \operatorname{ch}(\gamma y).$$

21176

S/141/60/003/006/015/025
E192/E382

Interaction Between

where I_0 is the beam current,

$U_0 = v_{||}^2 / 2\eta$ is the voltage corresponding to the drift velocity,

$\beta_{\perp} = v_{\perp} / c$ (where c is the velocity of light, $v_{\perp}$ is the transverse electron velocity),

G_{xp} , G_{yp} , G_{zp} are the Fourier coefficients of the high-frequency Lorenz force acting on an electron moving along a stationary trajectory in the field of a non-perturbed normal wave,

N is the normalising coefficient of this wave.

Eq. (2) is used to analyse the interaction between the H-wave in a smooth-walled rectangular wave with the

01
electron beam and its interaction with a non-symmetrical wave in a comb-type (periodic) waveguide. The interaction between the electron beam and a symmetrical wave in a comb-type strip waveguide is also investigated; the following special cases in

Card 3/6

21176

S/141/60/003/000/015/025
E192/E382

Interaction Between

the above type of interaction are considered: a magnetron amplifier with a trochoidal beam; interaction with a fast electromagnetic wave and interaction with a slow electromagnetic wave. The problem was also investigated experimentally on two specially constructed models, provided with comb-type delay systems. Such a system is illustrated in Fig. 4; this consists of: 1 - a comb-type anode; 2 - cathode; 3 - focusing electrode; 4 - electron beam and 5 - a cathode plate. Both models were designed for the 3-cm operating range. The results of the experiments are in good agreement with the calculated data and indicate that for the electrons rotating in a constant magnetic field both mechanisms of interaction of the type "O", i.e. the self-phasing and the spatial debunching, are equally effective and can be employed in microwave amplifiers and oscillators. There are 6 figures and 11 references: 10 Soviet and 1 non-Soviet.

card 4/6

Interaction Between

S/141/60/005/006/019/025
E192/E382

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy
institut pri Gor'kovskom universitete
(Scientific Research Radiophysics Institute
of Gor'kiy University)

SUBMITTED: July 13, 1960

Card 5/6

21176

Interaction Between

S/141/60/003/006/015/025
E192/E382

Fig. 4:

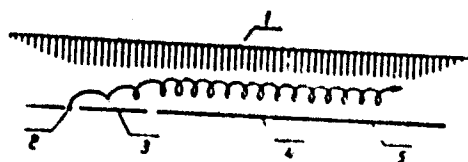


Рис. 4. Модель усилителя с гребенчатой линией
задержки:
1 - гребенчатый анод, 2 - катод, 3 - фокусирующий электрод;
4 - электронный луч, 5 - анодная пластина.

Card 6/6

L 5460-66 EMT(1)/EPA(w)-2/EMA(m)-2/EMA(h) IJI(c) AT
 ACC NR: AP5026710 SOURCE CODE: UR/0141/65/008/005/0948/0954

AUTHOR: Antakov, I. I.; Klimov, V. O.; Lin'kov, R. V.

ORG: Scientific Research Institute of Radio Physics at Gorky University (Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete)

TITLE: Application of a pulsed magnetic field in devices with a trochoidal electron beam

SOURCE: IVUZ. Radiofizika, v. 8, no. 5, 1965, 948-954

TOPIC TAGS: oscillation, millimeter wave generator, traveling wave, magnetic field

ABSTRACT: An experimental apparatus is described in which 8-mm oscillations were excited in a modified TWT by crossing a large pulsed magnetic field with a trochoidal electron beam. Part of the configuration, showing the comb delay anode and cathode, is shown in the figure. For an 8-mm wavelength, this structure gave a delay factor

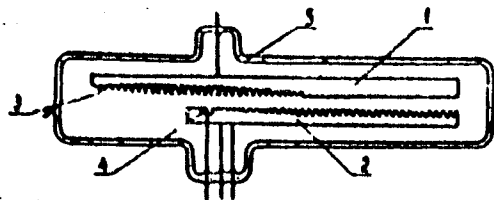


Fig. 1. Millimeter-wave oscillator

1 - Copper anode; 2, 3 - copper comb delays;
 4 - tantalum cathode; 5 - tube envelope.

Card 1/2

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ACC NR: AP5026710

of 1.2—1.4. To obtain a desired oscillation in this type of device demands a very uniform magnetic field in the working volume between electrodes; in this case it was necessary to design complex coaxial coils to provide a field uniform within 0.1% throughout a volume of $0.3 \times 0.5 \times 3$ cm. The tube cathode was also placed in a weaker field, approximately 15% of the pulsed field. A pulsed field (12—15 koe) was obtained by discharging capacitor banks into the coils at currents up to 2000 amp. Pulse width was 1.5 μ sec; the repetition period was about 15 sec. An 8-kv, 150- μ sec voltage pulse was simultaneously applied to the tube anode; variation of its synchronization with the magnetic field gave a limited degree of oscillation tuning control. Peak oscillatory outputs of 30 w were recorded at $\lambda = 8\text{--}8.3$ mm. Theoretically, CW oscillation is also producible in this way; however, in view of the huge currents involved, this would require either complex cooling of the coils or else achievement of a superconducting state. Another limiting factor is the distortion in the gap from stray fields caused by eddy currents in the electrodes. A theoretical analysis of this effect is given. Since this experiment was only a feasibility study, no attempt was made to determine the limits of generated power, frequency, or efficiency that might be attained. Orig. art. has: 4 figures and 3 formulas. [FSB: v.1, no.12]

SUB.CODE: EC/ SUBM DATE: 01Apr65/ ORIG REF: 007/ OTH REF: 007

Cord 2/2 *MD*

ACCESSION NR: AP4038630

S/0109/64/009/004/0752/0754

AUTHOR: Antakov, I. I.

TITLE: Electromagnetic waves in a comb-type waveguide filled with a heterogeneous medium

SOURCE: Radiotekhnika i elektronika, v. 9, no. 4, 1964, 752-754

TOPIC TAGS: waveguide, comb type waveguide, electromagnetic wave

ABSTRACT: So far, wave propagation in a comb-type waveguide has been investigated on the assumption that the guide is filled with a homogeneous medium. In this article, the wave propagation is investigated for the case when the medium between the corrugations and the medium above and below the corrugations have different dielectric constants and magnetic permeabilities. An approximate dispersion equation is set up for determining the propagation constant; in this equation, the effect of the corrugations is allowed for by the introduction of an equivalent impedance surface. The theory was verified by

Card 1/2

ACC NR: AP7004911

SOURCE CODE: UR/0109/66/011/012/2254/2257

AUTHOR: Antakov, I. I.; Gaponov, A. V.; Malygin, O. V.; Flyagin, V. A.

ORG: none

TITLE: The use of induced cyclotron emission of electrons for generating and amplification of electromagnetic oscillations

SOURCE: Radiotekhnika i elektronika, v. 11, no. 12, 1966, 2254-2257

TOPIC TAGS: maser, maser theory, cyclotron frequency, cyclotron resonance, electron beam, electromagnetic wave

ABSTRACT:

The design characteristics and the results of an experimental investigation of devices termed cyclotron resonance masers because of induced cyclotron emission are discussed. The cyclotron emission is caused by the interaction of a trochoidal electron beam with a traveling electromagnetic wave (either direct or backward with respect to the electron beam) at a frequency corresponding to the normal Doppler effect, i.e., at $\omega = \omega_n (1 \pm (v_0/v_{ph}))^{-1}$, where v_0 is the mean electron velocity, and v_{ph} is the phase velocity of waves in the direction of the mean electron velocity.

A schematic drawing of an M-type cyclotron resonance maser (with crossed E and H fields), designed to operate in the 8-mm waveband, is shown in Fig. 1. The interaction space in this maser is formed by the anode (3) and the cathode plate (2) both of which act as conductors in a plane

Card 1/3

UDC: 621.373

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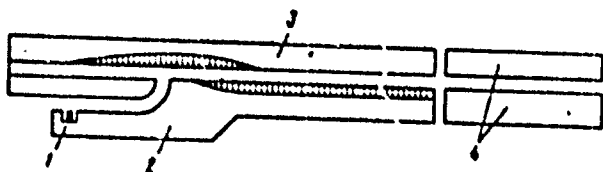


Fig. 1. Schematic drawing of the cyclotron resonance maser

1 - Cathode; 2 - cathode plate; 3 - anode; 4 - collector.

comb-shaped two-wire line. Dimensions of the comb-shaped line are chosen so as to assure the propagation, in the operating frequency range, of a symmetrical E wave with $v_{ph} \approx 0.8 c$, where c is the speed of light in vacuum.

The basic characteristics of the backward wave maser (oscillator) are shown in Figs. 2 and 3. The oscillation frequency of the maser is proportional to the magnetic field strength and approaches the cyclotron frequency of electrons. A change in output power in the tuning range is determined chiefly by a change in the stored rotating energy of the beam electrons. The highest efficiency of the backward wave maser was fixed at 10% ($P_{out} = 800 \text{ w}$, at $I_0 = 0.6 \text{ amp}$, and $U_{anode} = 14 \text{ kv}$) without regeneration.

The direct wave maser (amplifier), according to preliminary experiments, had an efficiency of about 25% for an output power of 750 w and a gain of 10 db. The amplifier band width, as determined by the width of the cyclotron resonance line, was about 300 Mc. Orig. art. has: 2 figures and 1 formula.

[JR]

Card 2/3

ACC NR: AP7004911

Pout. W

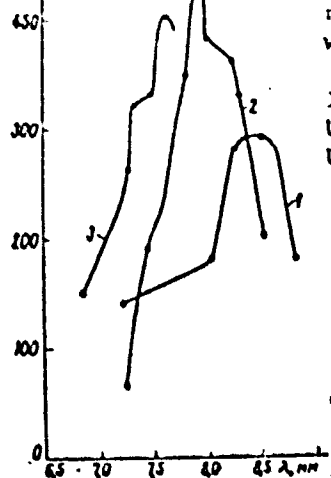


Fig. 2. Dependence of the maser generated power on wavelength at $I_0 = 0.4$ amp

1 - $U_{anode} = 10$ kv; 2 - $U_{anode} = 11$ kv, 3 - $U_{anode} = 12$ kv.

Pout. W

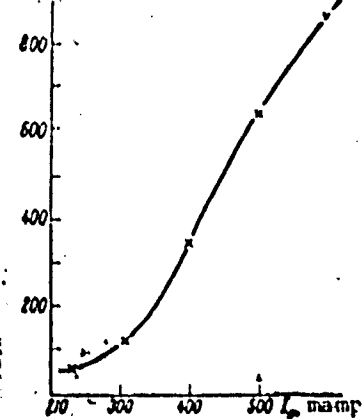


Fig. 3. Dependence of the generated power on the beam current at $U_{anode} = 14$ kv and $\lambda = 7.9$ mm

SUB CODE: 20 / SUBM DATE: 27Jan66/ ORIG REF: 008/
OTH REF: 002/ ATD PRESS: 5115

Card 3/3

S/194/61/000/008/022/092
D201/D304

AUTHORS: Kontorovich, A.E. and Antalov, R.M.

TITLE: Applying the pouring-aerating method in semi-quantitative spectral analysis

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 18, abstract 8 V148 (Tr. Sibirsk. n.-i. in-ta geol., geofiz. i mineral'n. syr'ya, 1960, no. 10, 60-62)

TEXT: The spectral laboratory of the SNIIGGINS uses a device for uniform feeding of powders into the discharge region, independently of the powder looseness. A sample weighing $300 \div 500$ mg is uniformly poured from a tipping measure into a vibrating hopper and from it into the discharge zone. The vibration of the measure and hopper is sustained by an electromagnet. The screw-cylinder tipping the measure is rotated by a CA-2 (SD-2) motor. Such a design makes it possible to use the SD-2 motor as a time relay and to

Card 1/2

Applying the pouring-aerating...

S/194/61/000/008/022/092
D201/D304

mechanize part of the operations. An arrangement is included permitting the simultaneous starting of the discharge arc and of pouring. The electrical circuit diagram is given and its operation described in detail. 2 figures. 4 references. [Abstracter's note: Complete translation]

Card 2/2

KONTOROVICH, A.E.; MININA, L.D.; ANTAKOV, R.M.

Use of the method of subjecting samples to the electric discharge
of air jets in quantitative spectrum analysis. Trudy SNIIGGIMS
no.14:142-148 '61. (MIRA 15:8)

(Rocks--Spectra)

ANTAL, Albert; MAROFKA, Ferenc

~~Operated~~ case of malignant retroperitoneal myoma. Magyar. noorv. lap
20 no.6:362-364 Dec 57.

1. A szegedi megyei J6gu korhas szuleszeti es noogyogaszati osztalyanak
kozlemenye foorvos: Bodis Lajos.

(LEIOMYOMA, surg.

retroperitoneal space, malignant (Hun))

(LEIOMYOMA, malignant, surg. (Hun))

SULIKS, M.; ANTAL, A.

Studying an apparatus with a screen plate to be used for bacteriological
examinations of the air. Oig. 1 san. 23 no.2:89 F '58. (MIRA 11:4)
(AIR--BACTERIOLOGY)

VERESS, Elemer, dr.; ANTAL, Albert, dr.

Our case of disgerminoma. Nagy. noorv. lap. 24 no.6:379-381 N '61.

1. A Szeged m. j. Varosi Tanacs Korhaza (igazgato: Nagy László dr.)
szülészeti és nőgyógyászati osztályának (főorvos: Bodis Lajos dr.)
közleménye.

(DISGERMINOMA case reports)

RUMANIA

ANTAL, A., Dr.

Institute of Hygiene and Public Health,
Cluj (Institutul de igiena si sanatate
publica, Cluj)

Bucharest, Viata Medicala, No 16, 1963,
pp 1137-1146

"Some Aspects of the State of Health of
the Adolescent in School Communities."

(1)

ANTAL, Albert, dr.; DODIS, Lajos, dr.

A rare case of embryonic mesenchymoma. Magyar. onkol. 7 no.3:
164-168 5'63.

1. Szegedi Varosi Tanacs Korhaza, Szuleszeti es Nagygyassati
Osztaly.
(INFANT, PREMATURE, DISEASES) (MESENCHYMOA)
(PATHOLOGY)

KOBIS, Lajos, dr.; ANTAL, Albert, dr.

Treatment of cystic and suppurative diseases of Bartholin's gland by marsupialization. Orv.Hetl.105 no.22:1029-1031
My 31 '64.

1. Szegedi m.j. Varosi Tanacs Korhaz, Szuleszeti es Megyogyszati
Osztaly.

BODIS, Lajos, dr.; ANTAL, Albert, dr.; HEIYFI, László, dr.

Our experiences with Abothyl in the treatment of cervical erosion.
Orv. Hetil. 105 no.32:1512-1513 9 Aug '64.

1. Szegedi m. Városi Tanács Kórhaza, Szülészet és
Nőgyógyászati Osztály.

VITAL, A., mr.; GOJAGU, L., Dravie, dr.; and CHLAPPE, L.

Contribution to the study of role of adaptation disorders as
an indication of health conditions. *Pediatrics (Bucur)* 14 no.1:
65-72 Jan-Feb.

1. Bucuresti efectuata in Institutul de igiena si sanatate publica,
Cluj.

SZEKELY, I.; ANTAL, A.

Mechanism for transforming the movement of continuous rotation
into discontinuous rotation. Bul stiint polit Cluj no.5:
435-442 '62.

AP. AI, Andrei

Research on the physical development of pre-school and school-age children in some geitrogenic areas of Transylvania. Stud. cercet. endocr. 15 no.5:459-464 '64.

ANTAL, Aniko

Serial production of thermosetting silicon rubber insulated cables.
Mass elast 18 no.20:7 26 S '63.

ANAL, Dezzo

Heating cables. Musz elet 19 no. 5:11 27 F '64.

ANTAL, Elemér, dr.; SOMFALVI, Béla, dr.; BIRO, Ferenc, dr.; HORVATH, Andor, dr.

On the etiology of congenital crura varum. Orv.hetil. 102 no.30:
1410-1411 23 J1 '61.

1. Komlói Városi Tanács Kórház és Nemibeteggyógyászati Intézet.

LEO abnorm) (SYPHILIS CONGENITAL compl)

ANTAL, Elmer, dr.; DANOS, Laszlo, dr.

Possibilities of preventive vaccination against silicosis. (Preliminary report). Orv.hetil. 105 no.5:210 2F '64.

1. A Kórokozó Szenbanyászati Tünet Szilikoózis Kutatócsoportja.

10.6-179

551.511.33:551.576.2

Antal, Emánuel, A felmelegedés mértékének összefüggése a felhőzetrel. [Relation between warming and cloudiness.] *Időjárás*, Budapest, 61(3):165-172, May/June 1957. fig., 4 tables, 4 refs., 65s. Russian summary p. 165; English version p. 225-230. DLC—Relations between warming and cloudiness on near advection-free days are investigated. By means of deviations in the values of warming, it is found that in some cases cloudiness is not an adequate indicator of warming even in the absence of advection. A statistical analysis shows that the relation between warming and cloudiness can be approximated with sufficient accuracy with a third order equation. Observed and calculated values of warming as a function of cloudiness are compared. *Subject Headings*: 1. Warming-cloudiness relationships 2. Advection free days 3. Nonadvective temperature change.—*Trans. of author's abstract (G.T.)*

ANTAL, E.

Evapotranspiration of natural surfaces in the area of Lake Balaton. P. 82.

IIQJARAS. (Meteorologiai Intezet es Magyar Meteorologiai Tarasag)
Budapest, Hungary. Vol. 63, No. 2, Mar./Apr. 1959

Monthly List of East European Accessions, (EEAI) LC, Vol. 9, no. 1, Jan.
1960 Uncl.

ANTAL, Emanuel

"Formation of the sea temperature" by V.S.Samoilenko. Reviewed
by Emanuel Antal. Idojaras 65 no.6:373 D '61.

ANTAL, Emanuel

Evaporation from the water surface. Idojaras 66 no.3:161-163
My-Je '62.

ANTAL, Emanuel

"Handbook on Lake research" by B.D. Zaykev. Reviewed by Emanuel Antal. Idojara 66 no.3;189 My-Je '62.

ANTAL, Emanuel

Evaporation from the water surface. Idojaras 66 no.3:161-163
My-Je '62.

.ANTAL, Emanuel

Evapotranspiration estimates. Orsz meteor int besz tud kut
25:131-153 '61 (publ.'62).

ANTAL, Emanuel

Methods for the estimation of the evaporation losses of
Balaton. Orsz meteor int besz tud kut 25:154-160 '61 (publ.'62).

ANTAL, Emanuel

"Underground water map of the Alföld" by Andras Ronai. Reviewed
by Emanuel Antal. Idojaras 66 no.4:250 J1-Ag '62.

ANTAL, Emanuel; ENDRODI, Gabriella; KISSNE TOTTH, Erzsébet

Tasks and methods for field studies in climatology. Idojaras 66
no.5:280-283 S-O '62.

ANTAL, Emanuel

"The climate of the Ukraine" by K.E. Buchinskiy. Reviewed by
Emanuel Antal. Idojaras 66 no.4:251 J1-Ag '62.

ANTAL, Emanuel

Evaporation of the Lake Balaton. Idojaras 67 no.5:290-297
S-0 '63.

ANTAL, Emanuel

Determining the evaporation of Lake Balaton by the energy balance method. Orsz meteor int besz tud kut 26:256-262 '62(publ.'63).

KOPPANY, Gy.; HILLE, Alfred; KAKAS, Jozsef; FUTO, Jozsef; KERI, Menyhert; PECZELY, Gyorgy; KOZMA, Bela; SZAPPANOS, Andras; AMBROZY, Pal; GOTZ, Guztav; PAPP, Laszlo; BELL, Bela; MARTOS, Andras; BACSO, Nandor; HAJOSY, Ferenc; CSAPODY, Istvan; NAGY, Laszlo, igazgato foorvos; DONASZY, Erno; BORONKAI, Pal; ANTAL, Emanuel; TANCZER, Tibor; OZORAI, Zoltan

The 10th itinerant meeting of the Hungarian Meteorological Society in Sopron. Idojaras 68 no.4:249-250 J1-Ag '64.

1. President, Hungarian Meteorological Society (for Hille).
2. Editor. "Idojaras" (for Kakas).
3. Editorial Board Member, "Idojaras", Budapest (for Ambrozy, Bell, Keri, Ozorai).

L 31374-65 FCC

ACC NR: AP6021126

SOURCE CODE: HU/0033/65/069/04-/0248/0257

AUTHOR: Antal, Emanuel

ORG: none

TITLE: Irrigation and meteorology ✓

SOURCE: Idojaras, v. 69, no. 4-5, 1965, 248-257

TOPIC TAGS: rain, atmospheric, evaporation, climatology, agronomy, hydrometeorology, atmospheric precipitation, hydraulic engineering

ABSTRACT: A review was made on the meteorological problems pertaining to irrigation. The following subjects were covered: requirements for irrigating water, atmospheric water shortage, optimum irrigation times, microclimate above vegetation, evaporation losses, and rainfall. The problems requiring additional investigations were discussed with especial emphasis. Various scientific disciplines, such as climatology, agrometeorology, hydrometeorology, are involved. The solution of the outstanding problems would contribute to the development of more scientific irrigation methods.

[JPRS]

SUB CODE: 04, 02 / SUBM DATE: none / ORIG REF: 017 / OTH REF: 014
SOV REF: 008

Card 1/1 CC

ANTAL, Etelka, dr.

~~XXXXXXXXXXXX~~
Significance of x-ray examinations in spinal deformities.
Nepégyógy 37 no.8:212-214 Aug 56.

1. Kóslény a Fovárosi Iskolaegészségügyi Szolgálat (vezető:
Károly-Pfeiffer, József, dr. igazgató-őorvos) Kósponti
Iskolaszakorvosi Rendelő Intézetéből (vezető: Antal, Etelka, dr.
őorvos).

(SPINE, abnorm.

x-ray diag. in school child. (Hun))

ANTAL, Ferenc

The Buda-type tie tamper of the Hungarian State Railways.
Vasut 12 no.1:21 30 Ja '62.

ANTAL R. and GYÖRGY D. *Világosított vesetumorok metasztázisai. V. sz. sz. 95/24 (665-666) Illus. 2
In a 67-year-old woman, after nephrectomy a fibroma of the vagina was found, which proved to be a metastasis of the renal cancer. Molnár - Budapest

EXCERPTA MEDICA SEC 5 Vol 12/6 Gen. Fath. June 59

1616. DERMATOMYOSITIS AND SCLERODERMATOMYOSITIS ASSOCIATED WITH CANCER - Dermatomyositis és sklerodermatomyositis különös tekintettel a daganatos szövődményre - Antal H., Klára T. and I. a. -
jos H. Orvostud. Egyet. Kórházánál Intézet. Bőrklin. Közle., Debrecen - MAG. ONKOL. 1958, 2/2 (88-93) Táblasz 4

In 2 patients suffering from cancer of the stomach, dermatomyositis, and sclerodermatomyositis, respectively, developed. These cases favour the assumption that dermatomyositis and sclerodermatomyositis may be induced by a tumour or its decomposition products. Dermatomyositis may turn from a scleroderma-like stage to sclerodermatomyositis.

(V. 6. 13. 16)

EXCERPTA MEDICA Sec 16 Vol 7/5 Cancer May 59

1024. **Dermatomyositis and sclerodermatomyositis associated with cancer** Dermatomyositis és sklerodermatomyositis különös tekintettel a daganatos szövődményre. ANTAL H., KLARA T. and LAJOS H. Orvostud. Egyet. Körbonctani Intézet, Borklin., Debrecen *Mag. Onkol.* 1958, 11 2: 88-93; Tables 4

In 2 patients suffering from cancer of the stomach, dermatomyositis and sclerodermatomyositis, respectively, developed. These cases favour the assumption that dermatomyositis and sclerodermatomyositis may be induced by a tumour or its decomposition products. Dermatomyositis may turn from a scleroderma-like stage to sclerodermatomyositis.

ANTAL, I.

For simpler wage accounting! p. 3, TOBBTERMELES, (Uzemi Tervgazdasagi es Szervezesi Tudomanyos Egyesulet) Budapest, Vol. 9, No. 6, June 1955

SOURCE: East European Accessions List (EEAL) Library of Congress,
Vol. 4, No. 12, December 1955

ANTAL, I., kand. sel'khoz. nauk

[Results of experiments made in carbonate-rich sandy soils in Hungary; report at the conference on methods and research in the increase of the fertility and productivity of light soils] iz rezul'tatov opytov, provedennykh na karbonatnykh peschanykh pochvakh Vengrii; doklad na nauchno-metodicheskoy soveshchaniy po povysheniyu plodorodiya i proizvoditel'nosti legkikh pochv. Minsk, Akad. sel'khoz.nauk BSSR, 1959. 9 p.
(MIRA 17:4)

Psychiatry

HUNGARY

SAMU, Istvan, Dr, SARKADI, Adam, Dr, BERTHOLD, Eva, Dr, ANTAL, Ilona, Dr;
City Council of Balassagyarmat, Hospital, Neurological and Psychiatric Ward
for Male Patients (chief physician: SAMU, Istvan, Dr) (Balassagyarmati Varosi
Tanacs Korhaza, Ferfi Ideg es Pszichiatriai Osztaly).

"Nearly Ten Thousand Successive Electroshock Treatments Under Relaxant
Protection."

Budapest, Orvosi Hetilap, Vol 108, No 7, 12 Feb 67, pages 293-295.

Abstract: [Authors' Hungarian summary] The experiences with 9787 successive
electroshock treatments administered to 253 patients and performed under
succinylcholine chloride relaxation and with mechanical respiration using
oxygen, are reported. It is concluded that, in such a manner, electroshock
can be administered almost free of complications even while the patients are
under neuroleptic and reserpine therapy and that extremely good and rapid
therapeutic effects are achieved by it. 3 Hungarian, 32 Western references.

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On the problem of artificial limb supply. Orv. hetil. 105
no.32:1531-1532 9 Ag '64.

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hang 10 no. 1:25-28 F '64.

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An account of the 20th Congress of the Young Pioneers and the visit
to the Soviet Radio. Kop hang 10 no. 1126-127 of 1964.

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SOURCE: EEAL, Vol 5, No. 11, November 1956

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SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 6, June 1957. Uncl.

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438-441 28 Apr 1957.

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kájának (igazgató: Batistfalvy János sr. egyetemi tanár) közleménye.

(LACTATION DISORDERS

Chiari-Frommel synd. (Hun))

(AMENORRHEA

SAME

(PITUITARY GLAND, dis.

SAME

ANTAL, J.; KONIG, A.

"Simple design of ferromagnetic series resonance circuits. In English."

p. 89 (Periodica Polytechnica. Electrical Engineering.) Vol. 1, no. 1, 1957
Budapest, Hungary

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958

CIAN, Imre; ABAL, Janos; GAICS, Gizella

Changes in systemic and retinal hypertension in hypertensive patients influenced by hypotensive agents. Kiseri. cerv. stud. 16 no.4:439-443 Ag '64.

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ANTAL, Jozsef, dr.

Emil Felletar, founder of Hungarian forensic chemistry, 1834-1917. Gyogysszeres 10 no.6:101-105 1 June 55.

(BIOGRAPHIES,
Felletar, Emil,)

Hungary/Diseases of Farm Animals. Non-Contagious Diseases. R-2

Abs Jour : Ref Zhur-Biol., No 18, 1958, 83557

Author : Antal, Jozsef

Institute : No institute is given

Title : B₁-Hypovitaminosis in Horses

Orig Pub : Magyar allatorv. lapja, 1957, 12, No 6, 190-191

Abstract : The disease which was studied by the author in 4 horses, is characterized by loss of appetite, bradycardia, and disturbances of motile coordination. In 6 of the cases it was caused by B vitamin deficiency of fodder contained 5-20 percent of horsetail (Equisetum) which decomposes this vitamin. The diseased horses recovered after they were given intramuscular injections of aneurin (vitamin B₁) and additional feedings containing yeast.--From the author's summary.

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(SALIVATION,
registration technic (Cs))

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Reflex modifications on respiratory metabolism in children. Cesk. fysiол.
7 no.3:178-179 May 58.

1. Fysiologicky ustav Lekarskej fakulty Komenskeho university v Bratislave.
(RESPIRATION, physiol.
reflex changes of resp. metab. in child. (Cs))

ANTAL, J.

Formation of conditioned reflexes during locomotor activities. Cesk.
fysiol. 7 no.5:427 Sept 58.

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(REFLEX, CONDITIONED,

forms during movements (Cs))

(MOVEMENTS, physiol.

form. of conditioned reflexes during locomotor activities
(Cs))

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"William Harvey, the founder of physiology."

p. 82 (Biologia, Vol. 13, no. 2, 1958, Praha, Czechoslovakia)

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3. Analysis of the Spontaneous Attenuation into the Subtypes
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Institute of the Institute of Psychology, Academy of Sciences,
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4. Conditioned-Innate Changes in the Control Mechanism under the
Effect of Short-Acting Epinephrine, by P. ZILIN, B. KRYUKOV, V. L.
KRYUKOV, S. KRYUKOV, and S. KRYUKOV from the Institute of Psychology,
Academy of Sciences, USSR, and from the Psychological Institute
of the Moscow University, 1957, pp. (English summary).
5. Conditioned-Innate Changes in the Control Mechanism under the
Effect of Short-Acting Epinephrine, by P. ZILIN and S. KRYUKOV
from the Institute of Psychology, Academy of Sciences, USSR,
Moscow, 1957, pp. (English summary).
6. The Balance Phenomena of Spreading Depression in the "Synchronicity"
of the Neurophysiological Reaction, by P. ZILIN and S. KRYUKOV
from the Institute of Psychology, Academy of Sciences, USSR,
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S. KRYUKOV of the Institute of Psychology, Academy of Sciences,
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10. Development of the Basic Problems of Aviation and Space Medicine
by S. KRYUKOV, A. KRYUKOV and S. KRYUKOV from the Psychological
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Effect of muscular work on blood coagulation changes in the dog.
Activ. nerv. sup. 4 no.2:174-175 '62.

1. Fyziológický ústav Lekárskej fakulty University Komenského v
Bratislave.

(EXERCISE physiol) (BLOOD COAGULATION physiol)

KIRILCUKOVA, V.; ANTAL, J.

Effect of noise on conditioned reflex activity in the rat. Aktiv. n
nerv. sup. 4 no.2:183 '62.

1. Oblastny ustav hygieny, Fysiologicky ustav lekarskej fakulty Uni-
verzity Komenskeho, Bratislava.

(NOISE) (REFLEX CONDITIONED)

ANTAL, J.

Conditioned reflex preparation of the organism for muscular work.
Activ. nerv. sup. 4 no.3/4:284-293 '62.

1. Institute of Physiology of the Medical Faculty Komensky University
and Institute of Experimental Medicine of the Slovak Academy of Sciences,
Bratislava.

(REFLEX CONDITIONED) (EXERTION) (MUSCLES)
(CARDIOVASCULAR SYSTEM) (RESPIRATORY SYSTEM)

CZECHOSLOVAKIA

ANTAL, J.; Department of Physiology of the Medical Faculty of Comenius University (Katedra fyziologie Lekarskej fakulty Univerzity Komenskeho,) Bratislava.

Prague, Ceskoslovenska Fysiologie, Vol 12, No 4, July 1963; pp 288-290.

Abstract: Physiology is now taught 250 hours whereof 120 are lectures; all in 3rd and 4 th semester; main difficulty is overcrowding of up to 500 students into facilities and with staff optimal for 100, maximally adaptable for 250. Author recommends blocking off subjects (crowd all physiology into 3rd month, eliminating competition for attention and motivation by anatomy and biochem. exams,) and standardization of laboratory work o n nationwide basis.

"Instruction in Physiology in Medical Faculties [in Czechoslovakia.]"

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(REFLEX, CONDITIONED) (LOCOMOTION)
(MUSCLES) (GROUP PROCESSES)

ANTAL, J.; KEMENY, A.

The rate of elaboration of alimentary and defensive reflexes
in group conditioning. *Physiol. Bohemoslov.* 13 no.2:110-116
1964.

1. Institute of Experimental Medicine, Slovak Academy of
Sciences, Bratislava.

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ANTAL, J.

"Analysis and computation of electric and magnetic field problems" by K.J.Binns, P.J.Lawrenson. Reviewed by J.Antal. Acta phys Hung 18 no.1:84-85 '64.

CZECHOSLOVAKIA

ANTAL, J.; Department of Physiology, Medical College, Comenius University
(Fysiologicky ustav LFUK), Bratislava.

"Blood Pressure and Cardiac Frequency Changes During Feeding in Carnivores
and Herbivores."

Prague, Coskoslovenska Fysiologie, Vol 14, No 5, Oct 1965; p 337.

Abstract: In intact dogs and cats, a very pronounced elevation of blood pressure and acceleration of pulse was found to accompany the process of feeding. The changes were much higher than those seen in dogs during exercise on a training wheel; and when feed was introduced through esophageal cannula, the blood pressure increase did not occur. In rabbits, sheep and goats there was a much smaller increase in blood pressure and cardiac frequency during feeding. The changes are attributed to phylogenetic heritage. Paper presented at the 15th Physiology Days, Olomouc, 28 May 65.

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Professor Frantisek Simer as a teacher. Bratisl. lek. listy 34
no.10-11:1318-1320 Oct-Nov 54.

(EDUCATION, MEDICAL

in Czech., work of Frantisek Simer)

(BIOGRAPHIES

Simer, Frantisek)

KOVACH, Ariastid; TAKACS, Lajos; KISS, Sandor; ANTAL, Janos

Carbohydrate metabolism in shock; V. Muscular degradation of glycogen in shock. Kiserleres orvostud. 8 no.2:205-214 March 56.

1. Budapesti Orvost. Egyetem Elektani Intezete.

(SHOCK, exper.

eff. on glycogen degradation in musc. of rats in vitro. (Hun))

(GLYCOGEN, metab.

muscle, eff. of exper. shock on degradation in rats in vitro. (Hun))

(MUSCLES, metab.

glycogen, eff. of exper. shock on degradation in rats in vitro. (Hun))

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APPROVED FOR RELEASE: 06/05/2000

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Effects of hypotension and shock on arteriovenous anastomoses of the extremities in dogs. *Magy. Tudom. Akad. Biol. Orv. Oszt. Kozl.* 8 no.1-2:73-76 1957.

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(BLOOD VESSELS, surg.

exper. anastomosis, arteriovenous, eff. of exper.

hypotension & ischemic shock in extremities of dogs (Hun))

(HYPOTENSION, exper.

eff. on arteriovenous anastomoses in extremities of dogs (Hun))

(SHOCK, exper.

eff. of ischemic shock on arteriovenous anastomoses in extremities of dogs (Hun))

ANTAL, S.

KOVACH, A.G.B.; ANTAL, J.; DOBY, T.

Haemodynamic regulation of the arterio-venous anastomoses of the limbs
in the dog. Acta physiol. hung. 14 no.2:141-147 1958.

1. Institute of Physiology, Medical University, Budapest.
(BLOOD VESSELS, physiol.
arteriovenous anastomoses, funct. demonstration & hemodynamic
regulation in hind limbs of dogs)

KOVACH, A.G.B.; ROHM, P.S.; URANYI, M.; KISS, S.; ANTAL, J.

Effect of the isolated perfusion of the head on the development of ischemic and hemorrhagic shock. Acta physiol. hung. 14 no.3:231-238 1958.

1. Institute of Physiology, Medical University, Budapest
(SHOCK, exper.

eff. of isolated perfusion of head with normal blood on
develop. of ischemic & hemorrhagic shock in dogs)

KOVACH, Aristid, G.B.; ROHMIM, Pal, S.; IRANYI, Magdolna; KISS, Sandor;
ANTAL, Janos

Effect of isolated perfusion of the head on the development of
ischemic and hemorrhagic shock. Kiserletes Orvostudomány 11 no.1:
76-82 Feb 59.

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(SHOCK, exper.

eff. of isolated perfusion of head by cross-circ. between
donor & acceptor dog on develop. of ischemic & hemorrhagic
shock (Hun))

(HEAD, blood supply
same)

KISS, S.; KOVACH, A.G.B.; IRANYI, M.; ANTAL, J.; DODA, M.; MONOS, E.

Effect of hypothalamic lesion on phosphatide metabolism in the liver. Acta physiol. hung. 15 no.4:303-312 1959

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(PHOSPHOLIPIDS, metabolism)
(LIVER, metabolism)
(HYPOTHALAMUS, physiology)

ANTAL, JANOS, dr.

Change of the eosinophil count under the influence of a new
iminodibenzyl derivative. Ideg. szemle 13 no.10:301-305 0 '60.

1. Budapesti Orvostudományi Egyetem Neurologiai klinikája (Igazgató:
Horanyi Béla dr. egyetemi tanár) közleménye.
(PSYCHOPHARMACOLOGY)
(EOSINOPHILS pharmacol)

ANTAL, Janos

"Electron-physics of semiconductors. Theory of transistors"
by W. Schokley. Reviewed by Janos Antal. Elektrotechnika
52 no.7:334 '59.

ALMASSY, Gyula, dr. (Budapest, IX., Ken u.5); ZADOR, Gyorgy, dr. (Budapest, IX., Ken u.5); ANTAL, Janos (Budapest, IX., Ken u.5); KOTSIS, Endre (Budapest, IX., Ken u.5); BAROSS-PAPP, Livia (Budapest, IX., Ken u.5)

Catalytic processing of calcium and magnesium-bearing insoluble substances by ion exchangers. Acta chimica Hung 32 no.2:255-269 '62.

1. Forschungslaboratorium der Budapester Schwefelsaurefabrik.

LITERATURE

HORVATH, Gyula, Jr, FENYO, Leon, Dr, ANHAL, János, Dr; National University of Medicine, Neurological Clinic (Erdőpáti Orvostudományi Agglet, Neurológiai Klinika) (director: HORVATH, Bela, Dr, professor).

"Extracranial Electrostimulation I. The Effect of Electrostimulation on the EEG."

Budapest, Idősegyeszereti Szemle, Vol XIV, No 10, Oct 1963, pages 289-296.

Abstract: [Authors' Hungarian summary modified] Square wave current impulse has been applied through electrodes on the skin locally and bitemporally, by the authors. Local impulses were also given with bipolar electrodes. The frequency was varied between 2-10,000/sec, duration between 0.05-100 msec. The voltage used was in general 30 V. The impulses lasted 20 and 60 sec. The EEG was taken immediately after the impulses were suspended. The test was carried out on 13 patients. Patients with tumors showed an intensification of the slow activity and signs of focal stimulation. In cases of temporal epilepsy, the intensification of focal symptoms; in post-traumatic patients, the activation of the slow focus was evidenced. Bitemporal impulses resulted in centrencephalic paroxysms in patients with centrencephalic epilepsy; in patients with temporal epilepsy, the activation of slow local signs and signs of excitation were the result. In the opinion of the authors, the local impulse is suitable mainly for the stimulation of cortical and neighbouring structures while bitemporal electrostimulation affects the mesodiencephalon. All Western references.

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ANTAL, J.

Group conditioning (alimentary and avoidance responses).
Activ.nerv.sup. 6 no.1:35 '64

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ANTAL, Janos, dr.; HASZNOS, Tovadar, dr.; FEJYO, Egon, dr.

Extracranial electric stimulation. II. Effect of electric stimulation on the number of circulating eosinophils. Ideggyogy szemle 17 no.6:179-187 Jo'64.

1. A Budapesti Orvostudományi Egyetem Neurológiai Klinikájának (Igazgató: Horányi, Béla, dr., egyetemi tanár) közleménye.

S/081/62/000/017/055/102
B158/B186

AUTHORS: Zádor, György, Schwartz, Sándor, Antal, János,
Suller, Lászlóne

TITLE: Continuous production of boric acid from boron-containing ore
rich in magnesium, for instance ascharite

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 360, abstract
17K54 (Hungarian patent 148174, May 15, 1961)

TEXT: A mixture obtained after treatment of boron-containing ore, rich in
Mg ($> 5\%$), with hot sulfuric acid, filtering off the gypsum and crystalli-
zing the boric acid, is passed through an ion exchange column in which the
Mg ions are bound. The downflow, containing free H_2SO_4 , may be used to
process new batches of ore, while the Mg ions bound in the column are
washed off with HCl or H_2SO_4 sufficient for the solution concentration to
be $> 20\%$. Then the column is washed with water and regenerated. The wash
waters are returned to the cycle, while the solutions of $MgCl_2$ or $MgSO_4$ are
used to slake magnesium oxychloride cements. [Abstracter's note:
Complete translation.]
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ALMASSY, Gyula; ZADOR, Gyorgy; ANTAL, Janos; BAROSSNE PAPP, Livia

Catalytic exploration of rocks by means of cation-exchanging
resins; technical application of catalytic exploration.
Magy kem lap 19 no.5:256-261 My '64.

1. Budapest Chemical Works.

ANTAL, Janosno; OZORAI, Istvan

Role of food industry in facilitating household work. Eleim ipar
19 no.4:121-125 Ap '65.

1. Ministry of Food, Budapest.

ANTAL, Josef

Contributions to the problem of organic manuring of sandy soils in Hungary. Zess probl post roln no.50a:163-174 '64.

1. South Hungarian Agricultural Experiment Institute, Szeged.

ANTAL, Jozsef (Miskolc)

118 production plans. Magyar vasut 8 no.7:6 3 Ap '64.

ANTAL, Jozsef

Production organization in geology. Good kart 17 no.2:110-
115 '65.